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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,765	02/05/2002	David Wilson Beddome	90099009	9265

7590 11/07/2003  
Ephraim Starr, General Counsel  
Honeywell International Inc.  
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EXAMINER

DUONG, THO V

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 11/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/068,765

Applicant(s)

BEDDOME ET AL.

Examiner

Tho v Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 14-17 and 20-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1- 13 and 18-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

Claims 17 and 22-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group and species as indicated by the applicants, there being no allowable generic or linking claim. Election of group I and species of figure 10 was made **without** traverse in Paper No. 10. The examiner has further withdrawn claims 14-16 and 20-21 because these claims direct only to the non-elected species of figure 7, which shows the relative proportion between the inner thread diameter of the enlarged portion and the circular center section having a uniform thickness. The applicant does not disclose any relative proportion between the inner thread diameter with the planar center section in the elected species of figure 10. Therefore, claims 14-17 and 20-20 have been withdrawn from further consideration.

### *Specification*

The abstract of the disclosure is objected to because the abstract has more than 150 words. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The disclosure is objected to because of the following informalities: on page 23, at line 3, the limitation “the enlarged ends 152b of the tie rod 150c” appears to be a typographical error of “the enlarged ends 152b of the tie rod 150b”.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4,10, 12-13,18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Darragh et al. (US 4,697,633). Darragh discloses (figures 1-2 and column 5, lines 8-21) a heat exchanger comprising a core (19) having a first end and opposing second end with a thermally variable size; a support structure (11) wherein the core (19) is received by the support structure, wherein the support structure comprising a first strong back (22) adjacent to the first end of the core; a second strong back (22) adjacent to the second end of the core; and a thermally deformable member including a plurality of variable thickness tie rods (38) mounted between the

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first strong back and second strong back (22); the tie rods (38) deforms substantially the same amount or rate as the thermal variation in the core size (19). Darragh further discloses (figure 2) that the variable thickness tie rod (38) further comprises a center section (41), a first end and the second end (39), wherein the center section has a center section thickness, wherein the first end and the second end (39) has a first end and a second end thickness greater than the center section thickness of center section (41); and the tie rod (38) further comprises a set of threads (48) at the first end and the second ends.

Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kodummudi et al. (US 6,328,098). Kodummudi discloses (figures 1-8) a heat exchanger comprising a core (4,5) having a thermally variable size; and a support structure comprises a thermally deformable member including a plurality of tie rods (2) and a first and a second strong back (3) positioned about the core, wherein each of the tie rods (2) is connected between the first and second strong back (3). Kodummudi further discloses (figures 3-8) each of the tie rods (2) and having a planar section (26,30,51,61) thermally deforms substantially the same amount or rate as the thermal variation in the core size to accommodate variation in the size of the core due to the structure of region of weakness (1) having a V-shaped section that allows the tie rod (2) to expand or contract freely with the core until the region of weakness is broken. As regarding claim 8, Kodummudi discloses (figures 2 and 4) that the planar section (30) at the region of weakness (1) is substantially aligned with a flow passing the planar section wherein the flow is defined as an air flow passes through fins (4) of the heat exchanger. As regarding claims 10 and 11, the tie rod (2) is considered to be a variable thickness tie rod since the tie rod (2) does not have equal

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thickness between the end section (sections mounted to the strong back (3)) and the middle sections (2a,1,2b).

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

G. T. Jacocks et al. (US 1,855,552) discloses a heat exchanger that has a plurality of tie rods extending between two header plates to accommodate the thermal movement of the heat exchanger.

Charles H. Smale (US 4,005,573) discloses a recuperative mounting to support the movement of the recuperator caused by thermal expansion.

Rhodes et al. (US 4,619,313) discloses a radiator frame unit that has a movable section to provide for unequal expansion of the side frame and the core.

Masai et al. (US 4,263,964) discloses a heat exchanger support system that permit the heat exchanger core to expand in all directions from thermal growth without restraint relative to the frame structure.

Nakamura et al. (US 6,283,199) discloses a heat exchanger that is capable of sufficiently absorbing any difference in thermal expansion between its components.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



TD

October 27, 2003



Tho Duong

Patent Examiner.